(12) UK Patent Application (19) GB (11) 2 294 495 (13) A

(43) Date of A Publication 01.05.1996

(21) Application No 9421766.8

(22) Date of Filing 28.10.1994

(71) Applicant(s)
Alloy Die & Cast Ltd

(Incorporated in the United Kingdom)

72-78 Wrentham Street, BIRMINGHAM, B5 6PQ, United Kingdom

(72) Inventor(s)
Andrew Charles Owens

(74) Agent and/or Address for Service
Alloy Die & Cast Ltd
72-78 Wrentham Street, BIRMINGHAM, B5 6PQ, United Kingdom

(51) INT CL^6
E04G 7/30 , F16B 5/00

(52) UK CL (Edition O)
E2A ACAP A106 A160 A164 A166 A171 A197 A418
U1S S1757

(56) Documents Cited

GB 0743311 A	**GB 0324472 A**	**EP 0616098 A**
EP 0407680 A	**US 3711139 A**	**US 3509960 A**

(58) Field of Search
UK CL (Edition O) **E1S SR , E2A AARL ACAP ACAQ ACAR ACAX AHD**
INT CL^6 **E04G 7/30 , F16B 5/00**
ONLINE-EDOC

(54) Locking device for scaffolding platform

(57) A means of connecting scaffolding platform units (Scaffold boards) securely onto the scaffolds upon which they are used to prevent their accidental dislodgement by wind forces comprising of a locking bolt assembly at one or each end of the platform unit which automatically locates into preformed rebates in the supporting transom member. The locking bolt, which may be operated by gravity or by the action of a spring mechanism locates under the rebates formed within the transom member restricting the disengagement of the end of the platform unit.

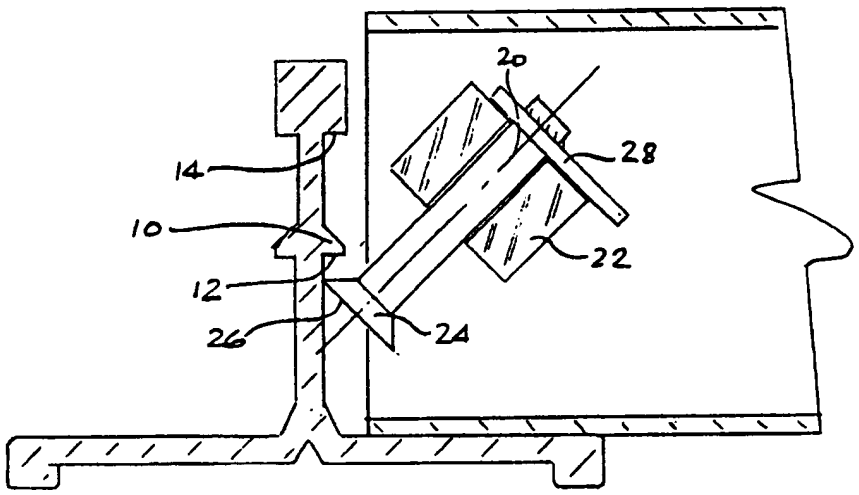

FIG 2

GB 2 294 4

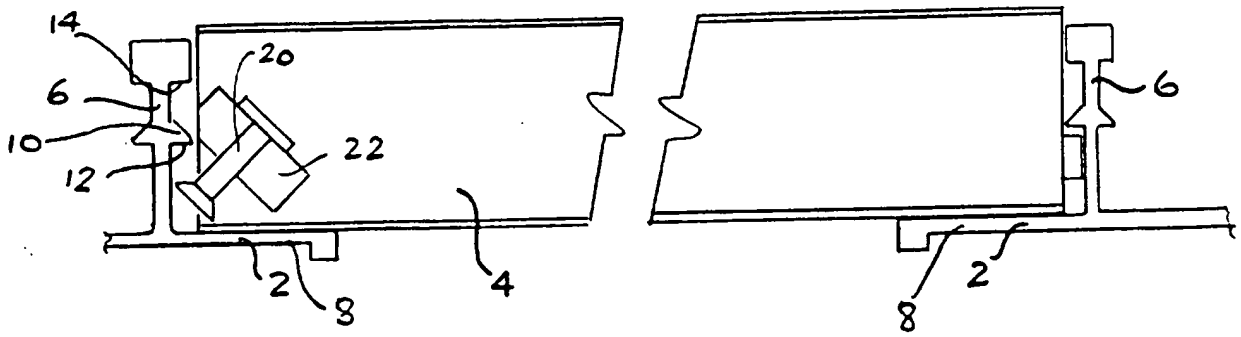

FIG 1

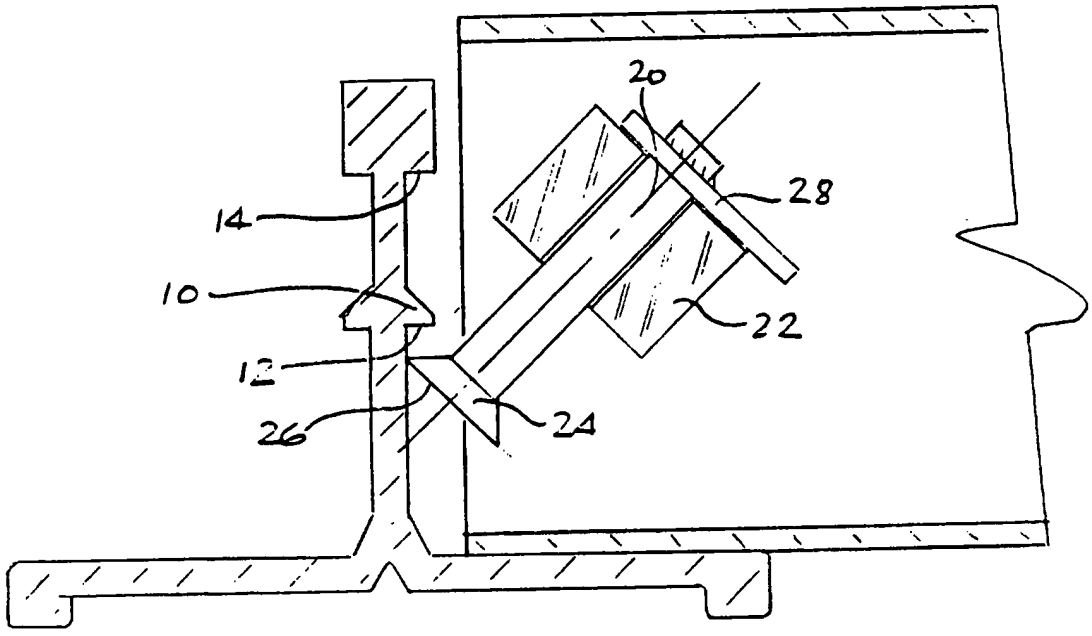

FIG 2

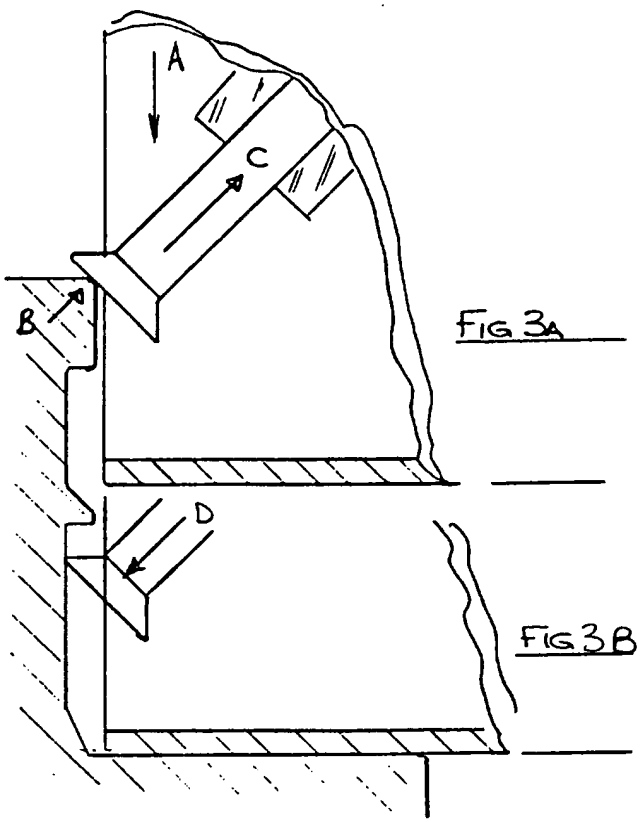

FIG 3A

FIG 3B

FIG 3

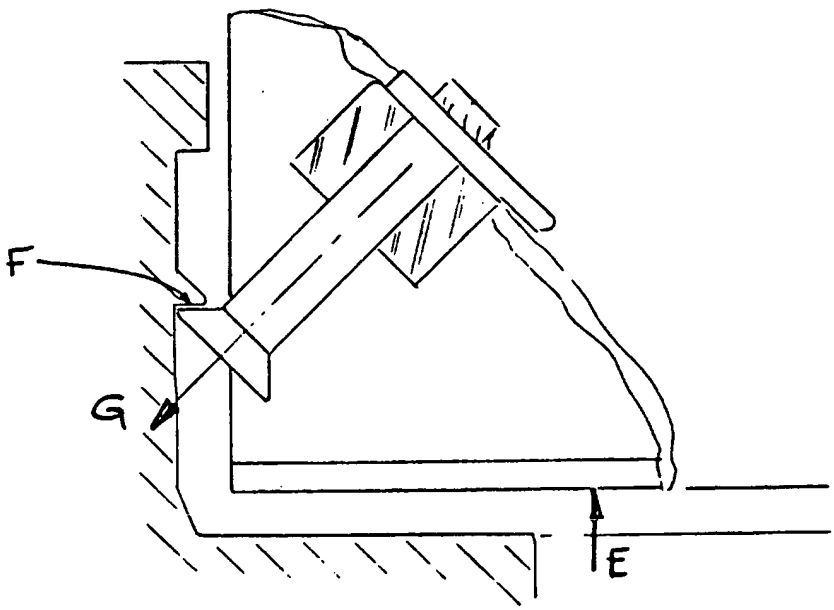

FIG 4

2294495

Title: Locking device for scaffolding platform.

Specification.

This invention relates to a means of connecting scaffolding platform units (Scaffold boards) securely onto the scaffolds upon which they are used.

Scaffolding platforms were for many years manufactured from solid timber planks and were very heavy hence dislodgement by wind forces or other accidental means was rarely a problem. Recently it has been the practice to manufacture these platform units from sheet metal and composite materials which has resulted in a considerable weight saving. The result of this weight reduction is that the platform units are much more readily dislodged accidentally and by the wind, especially in exposed areas such as coastal and offshore sites. It has been common practice to restrain the platforms against uplift using wire ties or metal or timber laths which are difficult to use and present hazards to the movement of men and materials along the scaffolding.

This invention provides for a scaffolding platform unit which when fitted on to a scaffolding system prevents the removal or dislodgement of the platform unit by accidental means or by wind forces, but which may be intentionally removed easily and quickly.

This invention comprises of a scaffolding platform unit incorporating a locking bolt assembly at one or each end of the platform unit which automatically locates into preformed rebates in the supporting

transom member when the platform unit is placed in position on the scaffold transom. The locking bolt, which may be operated by gravity or by the action of a spring mechanism locates under the rebates formed within the transom member restricting the disengagement of the end of the platform unit.

The invention will now be described by way of example with reference to the accompanying drawings where Fig.1 is a transverse sectional elevation through a pair of transom members and Fig.2 is a sectional view of the platform end located on the transom end drawn to an enlarged scale. Fig 3 (a and b) represent a sectional view of one platform end portion indicating the platform member in various positions within the assembly cycle. Fig. 4 represents a sectional view of the platform end portion when resisting upwards forces.

The scaffolding comprises of various structural elements forming a framework. A Pair of transom members 2 are spaced apart at a predetermined distance and are securely fixed within the structure such that a scaffold platform unit 4 can be located within the space between the upright members 6 and can be supported by the horizontal members 8.

The transom member incorporates a protruding barb 10 of which the under face 12 is substantially perpendicular to the member 6. The transom member may incorporate further perpendicular faces 14 similar in proportion to face 12.

The platform unit incorporates a locking bolt 20 which is free to slide in a housing 22 incorporated within the platform unit. The locking bolt incorporates an enlarged head portion comprising of a conically tapered portion 24 ending in a face 26 perpendicular to the

axis of the bolt. The locking bolt is retained by an enlarged portion 28 which may also serve as an operating handle. The axis of the locking bolt may be inclined at an angle to the horizontal such that the upper perimeter of the tapered portion 24 is approximately parallel to the face 12. The inclined angle of the bolt axis prevents the disengagement of the mechanism whilst under the action of upwards forces and also provides for the action of gravity to retain the bolt in the engaged position.

When the platform unit is offered downwards (direction A)into the transom aperture (Fig.3) the end of the bolt contacts the transom at point B causing the bolt to retract in the direction of arrow C after the bolt end has passed the barbed portion the bolt is free to return to the extended position (Arrow D).

When the platform unit is raised in the direction of arrow E (Fig.4), the bolt makes contact with the transom member at point F inducing a component of force in the direction of arrow G thus preventing the retraction of the bolt and hence preventing the disengagement of the platform. Lowering of the platform restores the gap between the bolt and the transom barb thus permitting its manual retraction and hence the disconnection of the platform unit.

Claims.

What we claim is:-

Claim 1

A means of connecting a scaffolding platform to the transom of a scaffold whereby a locking bolt retracts automatically to permit assembly and extends automatically to prevent the disengagement of the platform unit.

Claim 2

A connecting means as in claim 1 where the bolt is held in the extended position by the force of a spring.

Claim 3

A connecting means as in the above claims where more than one retaining means is incorporated.

Claim 4

A connecting means as in claims 1 or 2 whereby more than one perpendicular engagement face is present.

Claim 5

A connecting means in any of the above claims wherein the scaffolding components are constructed substantially from aluminium materials.

5

Patents Act 1977 **Examiner's report to the Comptroller under Section 17** **(The Search report)**	Application number GB 9421766.8
Relevant Technical Fields (i) UK Cl (Ed.O) E2A (ACAP, ACAQ, ACAR, ACAX, AARL, AHD) E1S (SR) (ii) Int Cl (Ed.6) E04G 7/30; F16B 5/00	Search Examiner A ANGELE Date of completion of Search 8 JANUARY 1996
Databases (see below) (i) UK Patent Office collections of GB, EP, WO and US patent specifications. (ii) ONLINE-EDOC	Documents considered relevant following a search in respect of Claims :- 1 TO 4

Categories of documents

X: Document indicating lack of novelty or of inventive step.

Y: Document indicating lack of inventive step if combined with one or more other documents of the same category.

A: Document indicating technological background and/or state of the art.

P: Document published on or after the declared priority date but before the filing date of the present application.

E: Patent document published on or after, but with priority date earlier than, the filing date of the present application.

&: Member of the same patent family; corresponding document.

Category	Identity of document and relevant passages		Relevant to claim(s)
Y	GB 743311 A	(UP-RIGHT)	2, 4
Y	GB 324472 A	(DUDLEY)	1, 3, 4
X, Y	EP 0616098 A1	(E-MONTALEV)	1, 3, 4
X, Y	EP 0407680 A1	(TRAVHYDRO ECHAFAUDAGES)	1, 3, 4
Y	US 3711139 A	(POLK) see whole document in each case	2, 3, 4
X	US 3509960 A	(SARNO)	1 to 4